

RE-DISCOVERY AND TYPIFICATION OF *THIBAUDIA LAURIFOLIA*,
MACLEANIA INSIGNIS, AND *M. COCCINEA* (ERICACEAE: VACCINIEAE),
AN ADVENTUROUS HISTORY

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ABSTRACT

Herbarium work has now revealed the true identity of and the ability to typify *Thibaudia laurifolia* M. Martens & Galeotti, *Macleania insignis* M. Martens & Galeotti, and *Macleania coccinea* Decne. ***Orthaea laurifolia*** (M. Martens & Galeotti) Luteyn is proposed as a new combination.

RESUMEN

El trabajo de herbario ha revelado la identidad verdadera de las especies y la posibilidad de tipificar *Thibaudia laurifolia* M. Martens & Galeotti, *Macleania insignis* M. Martens & Galeotti y *Macleania coccinea* Decne. Se propone ***Orthaea laurifolia*** (M. Martens & Galeotti) Luteyn como combinación nueva.

INTRODUCTION

In 1967, Yeo wrote a nice little paper entitled “Notes on some species of *Macleania* (Ericaceae).” That paper helped to sort out the taxonomy and nomenclature for numerous species of *Macleania*, the species numbered 1–15 in Smith’s (1932) monograph of the Thibaudieae. That group was characterized by having a single anther tubule and connate staminal filaments, the subgenus *Macleania* as defined by Luteyn (1997), several of which are still cultivated. Yeo recognized Smith’s taxonomy as “largely satisfactory, but that he [Smith] has misinterpreted a number of type specimens.” On pages 51–56 of the article, Yeo discussed *M. insignis* with its numerous synonyms. Yeo’s attempt to clarify the typification of some of these names was also largely satisfactory, but the types of three names discussed below still need further clarification.

Henri Galeotti was one of the first botanical explorers of Mexico. His collections were offered for sale and this explains their dispersion over many institutions. However, the herbarium (BR) of the National Botanic Garden of Belgium acquired large quantities of Galeotti material on two separate occasions. A first and the largest part was purchased after Galeotti’s death in 1858, as reported in the minutes of the meeting of 14 February 1859 of the “Société royale d’Horticulture” [which later became the National Botanic Garden]. This was not a complete set, however, of Galeotti’s Mexico collection of ca. 7300 specimens (perhaps only about half). Much later, in 1932, Pierre Martens donated the herbarium of his father Martin Martens to BR. It contained circa 2000 Galeotti specimens that M. Martens himself had examined with Galeotti. Upon his return from Mexico, the horticulturist Galeotti developed a collaboration with M. Martens (himself a professor in chemistry and botany at Louvain). The main output was the “*Enumeratio synoptica plantarum phanerogamarum ...*,” identifying the Mexico collection and published in a long series of articles presented at the meetings of the “Académie royale des Sciences et Belles-Lettres de Bruxelles” (Martens & Galeotti 1842–1845) (pers. comm. 2008 with E. Robbrecht).

It is with the aforementioned brief introduction that I set the context for the typifications mentioned in this paper.

Thibaudia laurifolia M. Martens & Galeotti

In 1842 (page 530), Martens and Galeotti described *Thibaudia laurifolia* based on *Galeotti 1814* (protologue: leaves short-petiolate, acuminate; racemes elongate, 6–8-flowered). In 1932, in his classic “The American

Species of Thibaudieae,” A.C. Smith cited the *Galeotti 1814* sheets at B and US as the “type collection of *Thibaudia laurifolia*.”

Unfortunately, *Galeotti 1814* is now seen to be a mixed collection of at least four elements based on material seen at BR, G, K, NY, P, US, and W. These include examples of *Macleania insignis*, *Satyria warszewiczii* Klotzsch, an unknown species possibly *Satyria panurensis* (Benth. ex Meisn.) Benth. & Hook.f. ex Nied., and the true *Thibaudia laurifolia*. Based on my studies, there were at least 11 herbarium sheets numbered as *Galeotti 1814* including one destroyed at B (after A.C. Smith had seen it), but not including the fragments at F. All the duplicate collections of *Galeotti 1814* seen, except the herein designated lectotype, have original printed Galeotti herbarium labels (Fig. 1A) that cite the collection locality as “Chinantla” and [Oaxaca] “Mexico,” and the collector as “H. Galeotti.” All the duplicates were identified as *Macleania insignis*, with the exception of the lectotype sheet. They are represented by:

B = *Macleania insignis* (fide A.C. Smith 1932; not seen since destroyed during WWII)

BR (barcode S.P. 627855) = *Thibaudia laurifolia* [bearing modern printed red annotation label “TYPUS,” and an original hand-written specimen collection label in the hand of Martin Martens that reads “Thibaudia laurifolia Nobis” (Fig. 1B) [based on figs. 2–3 in Dorr (1986), and pers. comm. 2008 with E. Robbrecht]; =lectotype of *Thibaudia laurifolia* and *Orthaea laurifolia* comb. nov. fide this paper]

BR = *M. insignis* (recently incorrectly annotated as “TYPUS” by means of a red felt-tip pen in an unknown hand; not seen by Smith; photo NY neg. 12557)

BR = *M. insignis* (unannotated, bearing only an original printed Galeotti herbarium label that has on it the hand-written “Thibaudia laurifolia H. Galeotti”)

BR = unknown Ericaceae, perhaps *Satyria warszewiczii* (bearing original printed Galeotti herbarium label that has on it the hand-written “Thibaudia laurifolia, nobis”)

F = *M. insignis* (fragment ex P correctly annotated as *M. insignis*, no mention of type status)

F = *M. insignis* (fragment ex G incorrectly annotated as isotype of *T. laurifolia*)

G = *M. insignis* (mounted on two sheets, bearing original printed Galeotti herbarium label that has on it the hand-written “Thibaudia,” and incorrectly annotated as “type coll. of Thibaudia laurifolia M. & G.” by Smith in 1932; photo F neg. 26647)

P = *M. insignis* (incorrectly annotated as “type coll. of Thibaudia laurifolia M. & G.” by Smith in 1931, by Sleumer in 1959, and also by Luteyn in 1978)

US (sheet 573239; barcode 00113543) = *M. insignis* (bearing original printed Galeotti herbarium label that has on it the hand-written “Thibaudia” (Fig. 1A), and incorrectly annotated as “type coll. of Thibaudia laurifolia M. & G.” by Smith in 1930)

W (sheet no. 117232) = *M. insignis* (bearing original printed Galeotti herbarium label that has on it the hand-written “Thibaudia laurifolia H. Gal.” and an annotation label as *Macleania insignis* by Cufodontis in 1933)

W (sheet no. 117231) = unknown Ericaceae, perhaps *Satyria panurensis* (bearing W herbarium label that reads “1814. Thibaudia laurifolia H. Gal.” and an annotation label as *Macleania insignis* by Cufodontis in 1933)

LECTOTYPIFICATION OF THIBAUDIA LAURIFOLIA

Orthaea laurifolia (M. Martens & Galeotti) Luteyn, comb. nov. BASIONYM: *Thibaudia laurifolia* M. Martens & Galeotti, Bull. Acad. Roy. Sci. Bruxelles 9(2):530. 1842, non Blume, Bijdr. Fl. Ned. Ind. 859. 1826. TYPE. MEXICO. OAXACA: Chinantla, 4000 ft, May (fl), H. Galeotti 1814 (LECTOTYPE, designated here: BR (barcode S.P. 627855), photo NY neg. 12556).

Empedoclesia stipitata Luteyn, Brittonia 28:403, fig. 2. 1976[1977]. *Orthaea stipitata* (Luteyn) Luteyn, Nord. J. Bot. 7:33. 1987. TYPE. MEXICO. OAXACA: Comaltepec, Ixtlan, La Esperanza, 1524 m, 19 Apr 1970 (fl), MacDougall 606.5 (HOLOTYPE: NY).

The sheets of *Galeotti 1814* from B and US that A.C. Smith (1932) cited as the “type collection of *Thibaudia laurifolia*” in his “The American Species of Thibaudieae” are now both seen to be *M. insignis*. In that same paper, on page 369, Smith also included *Thibaudia laurifolia* in the synonymy of *Macleania insignis*. He did not see (or at least did not annotate) the specimens of either *Galeotti 1814* or 1827 at Brussels (BR), but relied on sheets at B and US for his concept. Thus he did not know that *Galeotti 1814* was a mixed collection; therefore, he synonymized *Thibaudia laurifolia* under *Macleania insignis*. Nevertheless, the only specimen that fits the protologue of *T. laurifolia* is one of the sheets at BR, which Smith did not see, and which bears an original hand-written specimen collection label (Fig. 1B) that perfectly matches the handwriting sample for Martin Martens kept at BR (pers. comm. 2008, E. Robbrecht). That sheet has now been properly annotated as the lectotype of *T. laurifolia* and the remaining sheets as *Macleania insignis*, *Satyria warszewiczii*, or *Satyria* cf. *panurensis*.

In 1976, Luteyn described *Empedoclesia stipitata* based on MacDougall 606.5 (holotype: NY). Later,

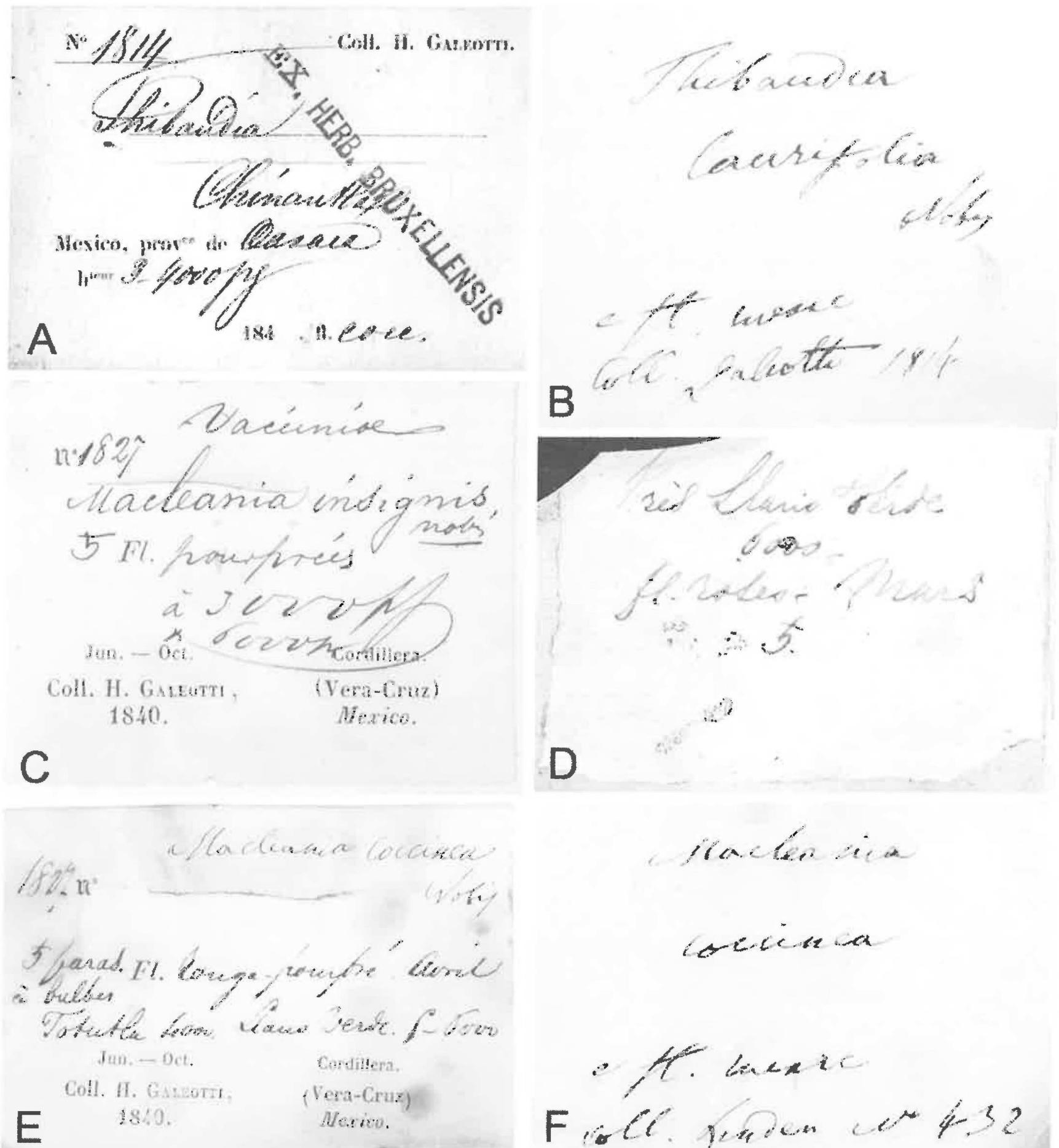


FIG. 1. Herbarium labels showing hand writing of Henri Galeotti and Martin Martens, all probably 1840s. A, Original printed Galeotti herbarium label in the hand of Galeotti from US duplicate of Galeotti 1814 (*Macleania insignis*). B, Original hand-written specimen collection label in the hand of M. Martens from BR sheet of Galeotti 1814, the lectotype of *Thibaudia laurifolia*. C, Original printed Galeotti herbarium label in the hand of H. Galeotti from BR sheet of Galeotti 1827, the lectotype of *Macleania insignis*. D, Original hand-written specimen collection label in the hand of H. Galeotti also from BR sheet of Galeotti 1827, the lectotype of *Macleania insignis*. E, Original printed Galeotti herbarium label in the hand of H. Galeotti from BR sheet of Galeotti 1827, a syntype of *Macleania insignis* as well as the lectotype of *Macleania coccinea*. F, Original hand-written specimen collection label in the hand of M. Martens from BR sheet of Linden 432. [E. Robbrecht (BR) kindly identified handwriting based on samples kept at BR]

Luteyn (1987) synonymized the genus *Empedoclesia* Sleumer under the genus *Orthaea* Klotzsch and made the new combination *Orthaea stipitata* (Luteyn) Luteyn. As a result of herbarium studies carried out in the United States (F, GH, MO, NY, US) and in Europe in 1986, 2006, and 2007 (B, BR, CGE, E, G, K, L, MA, OXF, P, S, W), it is now clear that both *Thibaudia laurifolia* and *Orthaea stipitata* represent the same species. Therefore, the new name becomes *Orthaea laurifolia* (M. Martens & Galeotti) Luteyn.

Macleania insignis

Martens and Galeotti (1842, page 531) also described *Macleania insignis* in the same article as above, based on *Galeotti 1827* (protologue: leaves subsessile, ovate, obtuse, 3-nerved; flowers fasciculate). The protologue stated that the species was found on oaks near to the German colony of Mirador at 4000 feet elevation, and that it was also found in the eastern cordillera of Oaxaca near Talea and Llano-Verde at 5000 and 6500 feet.

Based on my studies, there were at least nine herbarium sheets numbered as *Galeotti 1827* including one destroyed at B, but not including the fragments at F. The original printed Galeotti herbarium labels of all the duplicates of *Galeotti 1827* (Fig. 1C,E) give the general locality as “Cordillera, (Vera Cruz) Mexico,” along with the dates of “Jun.–Oct.” and “Coll. H. Galeotti, 1840,” although the individual labels of some of the duplicates seen at BR(2x), G, K(2x), NY, and P have three small differences with regards to more specific hand-written information. Two of the sheets at BR mention Llano Verde at 6000 feet (Fig. 1D), while the sheets at G and P give no specific locality, but do say the plants were “parasite” on oaks; the K-Herb. Hook. sheet says “parasite on oaks at 4–6000 ft.” One of the BR sheets that was relatively recently designated as “HOLOTYPUS” by P. Bamps (curator at BR) bears two hand-written labels at the bottom of the sheet—one an original hand-written specimen collection label mentioning “Près Llano Verde 6000” (Fig. 1D), and the other an original printed Galeotti herbarium label that reads “*Macleania insignis*, nobis” (Fig. 1C). This is the only sheet upon which the original printed Galeotti herbarium label gives the word “nobis”. The two labels match the handwriting of H. Galeotti based on personal communication in 2008 with E. Robbrecht (BR). This I feel means that this sheet was seen by the authors and is appropriate to designate as the lectotype, which is how I have annotated it. The W sheet reads “*Macleania insignis* nobis,” but does not have an original printed Galeotti herbarium label nor is it written in a recognized hand. The other *Galeotti 1827* sheets have all been annotated by me as syntypes. All of these are identified as *Macleania insignis* and are represented by:

B = *Macleania insignis* fide A.C. Smith 1932 (not seen since destroyed during WWII)

BR (barcode S.P. 627888) = *M. insignis* [lectotype, annotated as “HOLOTYPUS” by P. Bamps, bearing also an original printed Galeotti herbarium label that reads “*Macleania insignis*, nobis” (Fig. 1C), and a second hand-written specimen label that reads “Près Llano Verde 6000” (Fig. 1D), both in the hand of H. Galeotti (pers. comm. 2008 with E. Robbrecht)]

BR (barcode S.P. 627921) = *M. insignis* (syntype, without recent annotation, but bearing original printed Galeotti herbarium label with hand-written “*Macleania coccinea* Nobis” in the hand of H. Galeotti (Fig. 1E); photo NY neg. 12555; also herein designated as neotype of *M. coccinea*).

F = *M. insignis* (syntype fragment ex G; voucher for F neg. 26646)

G = *M. insignis* (syntype, correctly annotated “TYPE COLL.” by Smith in 1932; photo F neg. 26646)

K-Herb. Benth. = *M. insignis* (syntype, correctly annotated as “TYPE COLL.” by Smith in 1931)

K-Herb. Hook. = *M. insignis* (syntype, correctly annotated as “TYPE COLL.” by Smith in 1931)

NY = *M. insignis* (syntype, duplicate ex W)

P = *M. insignis* (syntype, correctly annotated as “TYPE COLL.” by Smith in 1931, by Sleumer in 1959, and also by Luteyn in 1978)

W (sheet no. 0008497) = *M. insignis* (syntype, with unrecognized hand-written label reading “*Macleania insignis* nobis”)

TYPIIFICATION OF MACLEANIA INSIGNIS

Macleania insignis M. Martens & Galeotti, Bull. Acad. Roy. Sci. Bruxelles 9(2):531. 1842. TYPE. MEXICO. VERA CRUZ: Cordillera, Llano Verde, 6000 ft, Jun–Oct, 1840, *Galeotti 1827pp* [LECTOTYPE, here designated: BR (barcode S.P. 627888), photo NY neg. 12554].

Macleania coccinea

The name “*Macleania coccinea*” was first introduced in the protologue of *M. cordata* Lem. (Lemaire 1848). In that publication, which included a color illustration of the new *M. cordata*, Lemaire mentioned that his new

species was cultivated at the establishment of “M. Jacob-Makoy, de Liège,” having been introduced alive in 1842 or 1843 by “M. Ghiesbregt” along with two other species “les *M. coccinea* ... et *insignis*....”

In 1851, Decaisne formally described *Macleania coccinea* from a cultivated plant collected by A.B. Ghiesbregt, presumably from Mexico (see Yeo 1976). The protologue (Decaisne 1851) included a description of the new species (in French), a paragraph about cultivation techniques for species of *Macleania*, and a beautiful color illustration of *M. coccinea* that as Yeo (1976) mentioned is “very similar” to the one of *M. cordata*. It does not, however, give any information about the original collection or its locality; therefore, the actual location of any type material is still uncertain. There are two herbarium specimens at BR bearing the name *M. coccinea*, the one of *Linden 432* (barcode S.P. 627954) from the “Collection Martin Martens,” donated to BR by Pierre Martens in 1932, bears the name “*Macleania coccinea*” on an original hand-written specimen collection label in the hand of Martin Martens (pers. comm. 2008, E. Robbrecht) (Fig. 1F). The second sheet, *Galeotti 1827pp* (type number for *M. insignis*), also ex “Collection Martin Martens,” donated to BR by Pierre Martens in 1932, has the more explicitly written name “*Macleania coccinea* Nobis” in the hand of Galeotti on an original printed Galeotti herbarium label that gives the general locality as “Cordillera, (Vera Cruz) Mexico,” along with the dates of “Jun.–Oct.” and “Coll. H. Galeotti, 1840” (Fig. 1E). These are the only two herbarium sheets that I have seen that bear the name *M. coccinea*. Since Decaisne’s types are supposedly at BR (Stafleu & Cowan 1976, page 607), I am herewith designating the latter sheet as the neotype of *Macleania coccinea*, the collection number of which is itself a syntype of *M. insignis*.

TYPIFICATION OF MACLEANIA COCCINEA

Macleania coccinea Decne., Rev. Hort. [Paris], sér. 3, 5:301, t. 16. 1851. TYPE. MEXICO. VERA CRUZ: Cordillera, “Totutla, 4000 [ft], Llano Verde 4–6000 [ft],” Jun–Oct, 1840, *Galeotti 1827pp* [NEOTYPE, designated here: BR (barcode S.P. 627921), photo NY neg. 12555].

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